

DAC 9

Digital to Analog Converter



The new DAC9 is the digital product consumers and dealers have been demanding from Audio Research: a straightforward DAC with a vacuum-tube analog section and the latest digital design, capable of decoding DSD music files, upsampling to 384kHz, with the ability to accommodate multiple digital inputs.

DAC9 design features include:

- Native DSD file decoding: Converts DSD files to a true Direct-Stream-Digital signal running at 2.8224 MHz or 5.6448 MHz. DSD-to-PCM file conversion is not necessary. ARC designed two distinct digital paths to the DAC9's D-A converters: One path for PCM music files from 44.1kHz to 384kHz sample rates; the other separate path is for serial DSD music files at 1x and 2x DSD clock rates. (The DAC9 will also play DoP files if desired.)
- Quad D-A converters: Each channel uses dual stereo DACs running in mono to increase dynamic range and lower the noise floor. Audio Research pioneered this approach—almost all other manufacturers use only one stereo (or two mono) DACs.
- The DAC9 uses two different TCXO crystal Master oscillators, one for 44.1-88.2-176.4-352.8 sampling rates, the other for 48-96-192-384kHz sample rates; this assures proper integer decoding so there are no interpolation distortion errors that would degrade sonic purity. The proper time clock is selected automatically.
- Native sample rate upsampling is available for all inputs, up to 352.8kHz for 384kHz for non-DSD (PCM) music files.
- Selectable digital filters are available, with both Fast and Slow roll-off, so the user can customize according to personal taste.
- Reference Recordings DVD-R HRx recordings are compatible.
- Four galvanically-isolated inputs include RCA, AES/EBU (XLR), BNC and Toslink to assure no ground loops.
- The zero-feedback, pure Class-A analog section features two high performance, long-life 6H30 vacuum-tubes directly coupled to the D-A converters, with no capacitive coupling to diminish low-frequency response at this critical point.
- The DAC9 is a fully balanced design, with both XLR (balanced) and RCA (single-ended) analog outputs.
- 8 very low noise, low voltage regulators are used in the digital section, with a low noise, high voltage regulator for the vacuum-tube analog section.

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HIGH DEFINITION®

The DAC9 is the most technologically advanced digital product ever developed by Audio Research, and represents a sonic breakthrough in digital-to-analog music reproduction.



Specifications

Frequency Response: 6Hz - 192kHz +0/-3 dB;
20Hz - 20kHz +0/-0.15 dB.

Noise Floor: >-103 dB RMS, 20 Hz - 20 kHz

Signal-to-Noise Ratio: >114 dB

Total Harmonic Distortion + Noise: 0.002% @
2VRMS, 1 kHz balanced output

IMD + Noise: 0.001% (SMPTE ratio).

DAC resolution: 24 bits.

Intrinsic Jitter: <10 pS.

Channel Separation: 107 dB.

Dynamic Range: 114 dB (AES17)

Output Impedance: 500 ohms balanced, 250
ohms single-ended.

Master Oscillator: 22.579 mHz ±20 Hz for 44.1,
88.2, and 176.4 kHz 24.576 mHz ±20 Hz for 48, 96,
and 192 kHz.

Inputs: USB 2.0 HS (480 Mbps): 44.1 to 384 kHz,
DSD (2.28225 mHz), 2xDSD (5.6448 mHz); RCA
(75Ω SPDIF): 44.1 to 192 kHz; BNC (75Ω SPDIF): 44.1
to 192 kHz; XLR (110Ω SPDIF): 44.1 to 192 kHz;
AES/EBU: 44.1 to 192 kHz; Optical (660 nM Toslink
fiber): 44.1 to 96 kHz.

Digital Filter: Selectable Fast and Slow
algorithms.

Upsampling: Inputs upsample to 354.8 or 384 kHz.

Compliance: FCC and CE.

Rated Outputs: 3.8V max balanced; 1.9V max
single-ended.

Controls: 6 Push Buttons: Power, Menu, Option,
Enter, Input, Mute.

Power Supplies: Electronically regulated low and
high voltage supplies. Automatic 45 second warm-
up/brown-out mute. Line regulation better than
.01%. Maximum ambient air operating
temperature: 30° C, 86° F.

Tube Complement: (2)-6H30P dual triodes.

Power Requirements: 100-125VAC 60Hz (200-
250VAC 50/60Hz) 60 watts maximum.

Standby: 1.8 watts.

Dimensions:

Width	19" (48 cm)
Height	6.5" (13.7 cm)
Depth	13.7" (34.8 cm)

Handles extend 1.6" (4 cm) forward of the front
panel.

Weight: 13.9 lbs. (6.3 kg) Net; 20.4 lbs. (9.3 kg)
Shipping.

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